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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/965,966	09/28/2001	Sawako Usuki	YAO-4347US	5190

7590 07/05/2006  
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EXAMINER

ENSEY, BRIAN

ART UNIT PAPER NUMBER

2615

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/965,966

Applicant(s)

USUKI ET AL.

Examiner

Brian Ensey

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 2, 6, 11 and 12 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10 and 14 is/are allowed.
- 6) ☒ Claim(s) 1, 3-5, 7-9 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/30/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Species II (Figs. 4 and 5A-5C, claims 1, 3-5, 7-10 and 13-14) in the reply filed on 5/8/06 is acknowledged. The traversal is on the ground(s) that claim 1 is generic. This is not found persuasive because all claims are not required to be examined even though a generic claim is included in an elected species.

The requirement is still deemed proper and is therefore made FINAL.

### ***Information Disclosure Statement***

The information disclosure statement filed 2/5/04 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

### ***Drawings***

Figures 9A and 9B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes

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are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Horikoshi Japanese Patent Publication 57154998.

Regarding claim 1, Horikoshi discloses an electromagnetic transducer, comprising: a magnetic member (19, iron bar); a suspension (18, 1<sup>st</sup> diaphragm body suspending the magnetic iron bar above the magnetic circuit) for supporting the magnetic member at a central portion of the suspension; a diaphragm (30, 2<sup>nd</sup> diaphragm body) connected to the suspension; a magnet (24) for generating magnetic flux on the magnetic member; and a coil (21) for generating alternating magnetic flux on the magnetic member (See patent abstract translation and figure).

Regarding claim 3, Horikoshi further discloses a center pole (22, a magnetic core) provided at an inner periphery side of the coil; and a yoke (23, a magnetic core body) provided at a side of the coil opposite to the diaphragm, wherein the magnet surrounds the coil (See patent abstract translation and figure).

Regarding claim 7, Horikoshi further discloses a thin magnetic plate (19, iron bar) provided between the magnet and the diaphragm (See patent abstract translation and figure).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horikoshi in view of Uenosono Japanese Patent Application Publication 11-055794.

Regarding claim 4, Horikoshi discloses a diaphragm (30) made of a plastic material (See patent abstract translation). Horikoshi does not expressly disclose the diaphragm comprises a resin. However, transducer diaphragms comprising a resin are well known in the art and Uenosono teaches a resin-made diaphragm (22) a (See Uenosono abstract translation). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use

the resin diaphragm of Uenosono in the device of Horikoshi to provide a more durable diaphragm (See Uenosono translation paragraph 0013).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horikoshi in view of Sone U.S. Patent No. 5,467,323.

Regarding claim 5, Horikoshi discloses a suspension (18, 1<sup>st</sup> diaphragm body suspending the magnetic iron bar above the magnetic circuit) made of a plastic material (See patent abstract translation). Horikoshi does not expressly disclose the suspension comprises a metal. However, transducer suspensions comprising a metal are well known in the art and Sone teaches a suspension (14) comprising a metal and supporting a magnetic member (16) (See Fig. 1 and col. 4, lines 50-54). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the metal suspension of Sone in the transducer of Horikoshi to provide an increased total flux density and improved magnetic coupling (over a non-magnetic suspension) (See Sone col. 4, lines 50-56).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horikoshi in view of Murakami Japanese Patent Application Publication 11-055794.

Regarding claims 8 and 9, Horikoshi does not expressly disclose an opening is provided at a central portion of the magnetic member and a cover for covering the opening. However, the use of a suspension with an attached magnetic member having an opening at a central portion is well known in the art and Murakami teaches a suspension (15) with an attached magnetic member (14, annular iron disk) having an opening at a central portion and said suspension covers said opening in said magnetic member (See Murakami translation page 4, paragraph 1 and Fig. 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

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invention to use the magnetic member having an opening at a central portion and cover of Murakami in the transducer of Horikoshi for improved performance due to its mass being lighter than a solid disk (iron bar 19 of Horikoshi) (See Murakami translation page 4, paragraph 2).

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horikoshi in view of Lee U.S. Patent No. 5,956,622.

Regarding claim 13, Horikoshi discloses a transducer as claimed. Horikoshi does not expressly disclose the transducer is for use in a portable communication device. However, the use of small transducers in portable communication devices is well known in the art and Lee teaches a small transducer for use in portable communication devices (See abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the transducer of Horikoshi in any portable communication device where small size and light weight is required.

#### ***Allowable Subject Matter***

Claims 10 and 14 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The present invention is directed to an electromagnetic transducer. Independent claim 10 identifies the uniquely distinct feature of a magnetic circuit comprising a center pole shaped to be inserted into an opening of a magnetic member supported at a central portion of a suspension wherein the pole is positioned higher than or equal to a bottom face of the magnetic member.

The prior art fails to anticipate or render the independent claim 10 obvious.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 571-272-7496. The examiner can normally be reached on Monday - Friday 6:30 AM - 3:00 PM.

The Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group **Art Unit 2615**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
P.O. Box 1450  
Alexandria, Va. 22313-1450

**Or faxed to:**

(571) 273-8300, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand-delivered responses should be brought to:

Customer Service Window  
Randolph Building  
401 Dulany Street  
Arlington, VA 22314



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "Brian Ensey". The signature is fluid and cursive, with the first name "Brian" and last name "Ensey" clearly distinguishable.

Brian Ensey  
Examiner